

Abstract

The present invention relates to 1) the design and synthesis of analogs to glutathione conjugates which bind to or interact with aldose reductase (AR) through unique conformations that are distinctly different from the substrates and inhibitors of AR which are members of sugar metabolism; 2) the screening of the analogs to identify those that interact with or inhibit or enhance the activity of AR; and 3) the use of AR ligands, AR inhibitors (AR antagonists) or AR enhancer (AR agonists) in the detection of AR activity, the modulation of AR activity, and the treatment of conditions in a subject in need of modulating AR activity. Such conditions include but not limited to cardiovascular disease, diabetes, arteriosclerosis, cancer, neoplasm, obesity, cataract, retinopathy, keratopathy, nephropathy, neurosis, thrombosis, faulty union of corneal injury and neuropathy. Examples of the treatment include the use of fibrates as AR inhibitors to treat these conditions.